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C 7 18. A method for testing an electromagnetic flowmeter having a measuring tube and a coil arrangement for generating a magnetic field perpendicular to the direction of flow through the measuring tube, the current direction in the coil arrangement being periodically changed, comprising the steps of sensing the change in the current direction, and after the change in the current direction determining at least one parameter of the current rise and comparing the parameter with a reference value.

19. A method according to claim 18, in which testing is carried out during measurement of a throughflow.

20. A method according to claim 18, in which the reference value is determined from the flowmeter at an earlier time.

21. A method according to claims 18, in which a time period that elapses between two predetermined current values is used as the parameter.

22. A method according to claims 18, in which a time period that elapses between change in the current direction and reaching a predetermined current value is used as the parameter.

23. A method according to claim 18, in which after change in the current direction, a stepped-up voltage is used.

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24. A method according to claims 18, in which the supply voltage of the coil arrangement is regulated ratiometrically in relation to a reference voltage which is also used to determine the parameter.

25. A method according to claim 18, in which the curve shape of the current rise is used as the parameter.

26. A method according to claim 25, in which the curve shape is formed by current values ascertained at predetermined times.

27. A method according to claim 18, in which current rises following directly one after the other are compared with one another.

28. An electromagnetic flowmeter arrangement having a measuring tube, a coil arrangement for generating a magnetic field substantially perpendicular to the direction of flow through the measuring tube, an electrode arrangement substantially perpendicular to the direction of flow and to the magnetic field, a supply system for the coil arrangement which has a current direction change-over arrangement, and a testing device, the testing device including means which, after a change-over of the current direction, determines at least one parameter of the rise in the current in the coil arrangement and compares the parameter with a given value.

29. An arrangement according to claim 28, in which the testing device comprises a time-counter and a rise time serves as the parameter.

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30. An arrangement according to claim 29, in which the testing device further comprises a comparator which compares the current or a variable derived therefrom with a given value and which is connected to the time-counter.

31. An arrangement according to claim 29, in which the time-counter is connected to a checking unit which produces an error message whenever the time ascertained differs by more than a predetermined difference from a given value.

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32. An arrangement according to claim 30, in which the time-counter is connected to a checking unit which produces an error message whenever the time ascertained differs by more than a predetermined difference from a given value.

33. An arrangement according to claim 28, in which an electrical resistance is arranged in series with the coil arrangement, the resistance having a temperature-dependent resistance behavior which is inversely proportional to that of the coil arrangement.

34. An arrangement according to claim 28, including a supplementary voltage supply system connected to the supply system by means of a change-over switch.

35. An arrangement according to claim 28, comprising an analogue-to-digital converter, which determines the analogue values in relation to a reference voltage, the value of which is also used as a starting point for determining coil current and coil supply voltage.